

Final Landscape Plan

77th STREET PROJECT

Naperville, Illinois

April 16, 2020

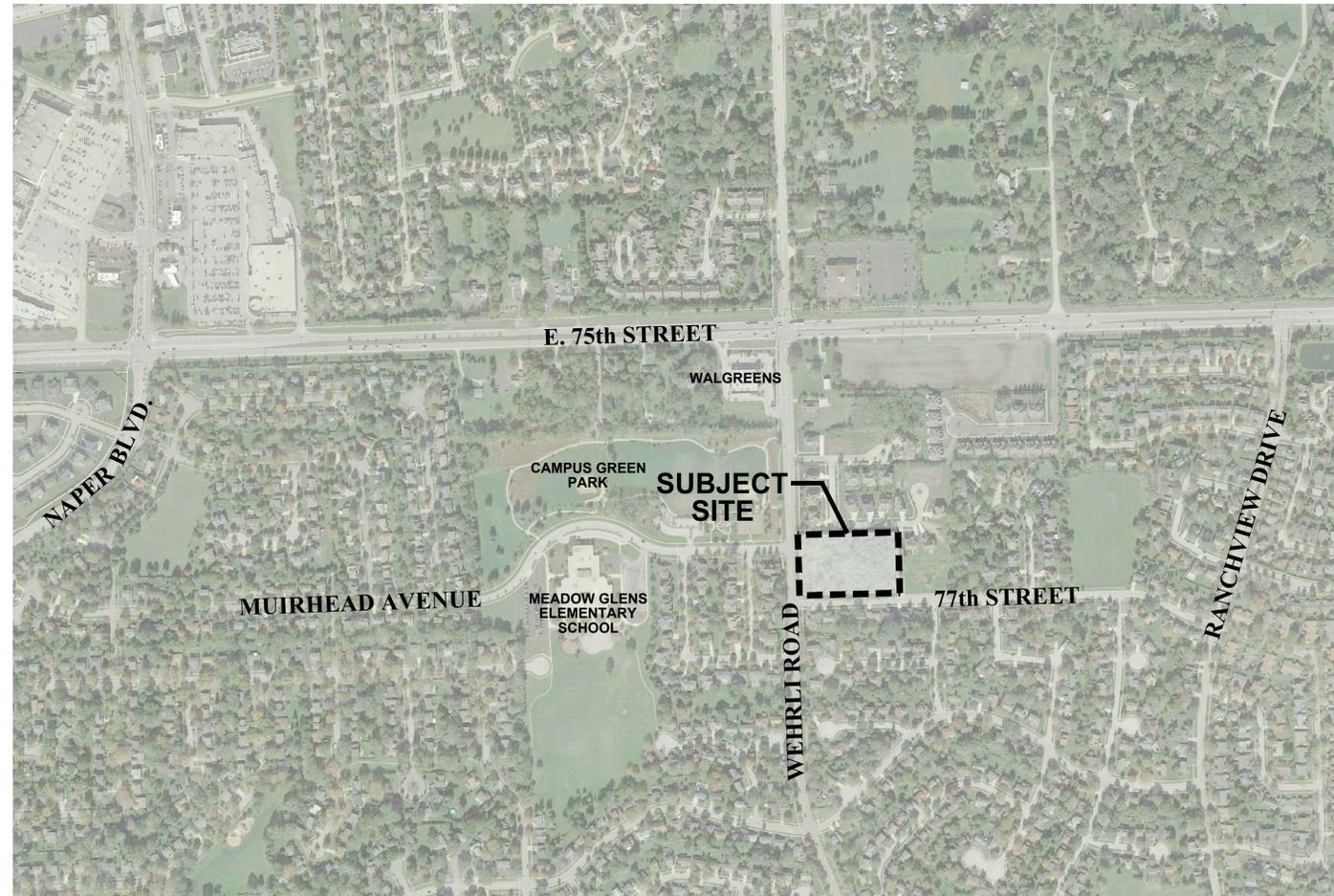
CONSULTANTS:



LANDSCAPE ARCHITECT:
 GARY R. WEBER ASSOCIATES, INC
 402 W. LIBERTY DRIVE
 WHEATON, ILLINOIS 60187



CIVIL ENGINEER:
CEMCON, Ltd.
 CONSULTING ENGINEERS, LAND SURVEYORS & PLANNERS
 2280 WHITE OAK CIRCLE, SUITE 100
 AURORA, IL 60502-9675



LOCATION MAP
 SCALE: 1"=400'

INDEX OF SHEETS

| SHEET NO. | DESCRIPTION |
|-----------|------------------------------------|
| 0 | COVER SHEET |
| 1 | LANDSCAPE PLAN |
| 2 | TREE INVENTORY / PRESERVATION PLAN |
| 3 | LANDSCAPE SPECIFICATIONS |

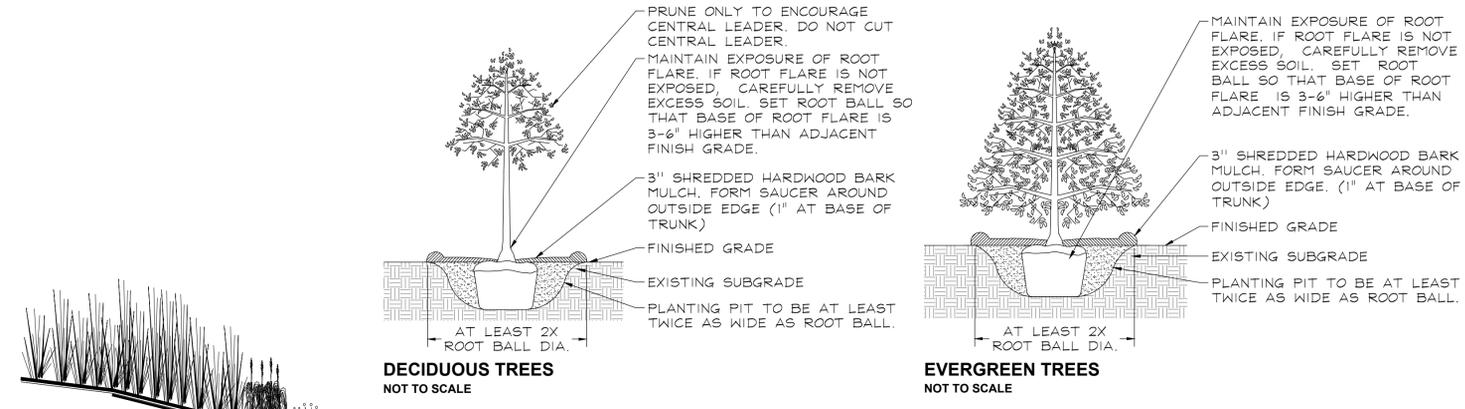


APPROVED

GENERAL NOTES

1. Trees shall be installed a minimum of five (5) feet horizontally from underground electrical feeders, storm sewers, sanitary sewers, sanitary services, water mains, and water services. Trees shall be installed a minimum of ten (10) feet horizontally from utility structures and appurtenances, including, but not limited to, manholes, valve vaults, valve boxes and fire hydrants. No trees, shrubs or obstacles will be allowed 10' in front of, 5' on the sides, and 7' to the rear of the electrical transformer.
2. Contractor shall verify underground utility lines and is responsible for any damage.
3. Contractor shall verify all existing conditions in the field prior to construction and shall notify landscape architect of any variance.
4. Material quantities shown are for contractors convenience only. The Contractor must verify all material and supply sufficient materials to complete the job per plan.
5. The landscape architect reserves the right to inspect trees and shrubs either at place of growth or at site before planting, for compliance with requirements of variety, size and quality.
6. Work shall conform to American Standard for Nursery Stock, State of Illinois Horticultural Standards, and Local Municipal requirements.
7. Contractor shall secure and pay for all permits, fees, and inspections necessary for the proper execution of this work and comply with all codes applicable to this work.
8. See General Conditions and Specifications for landscape work for additional requirements.

PLANTING DETAILS



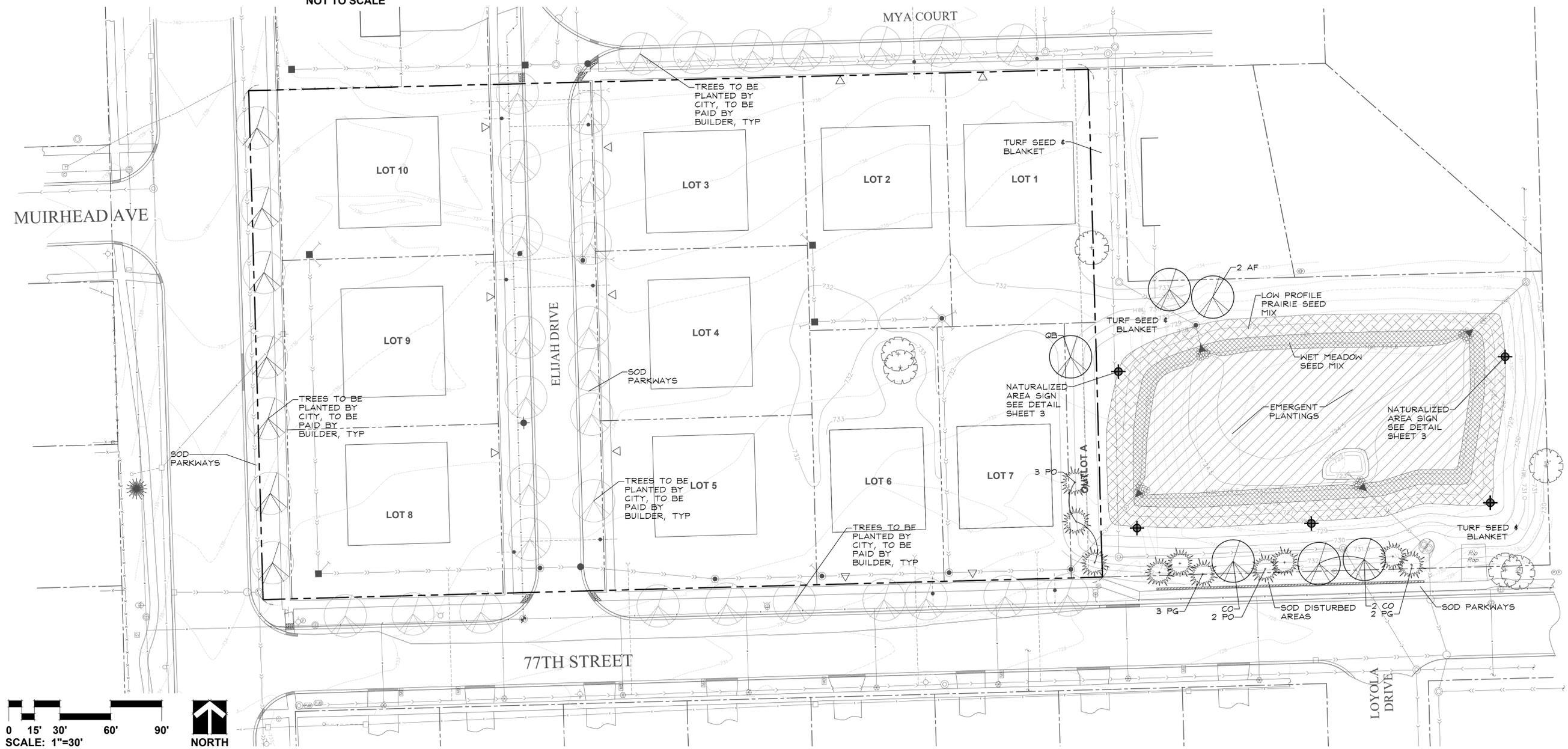
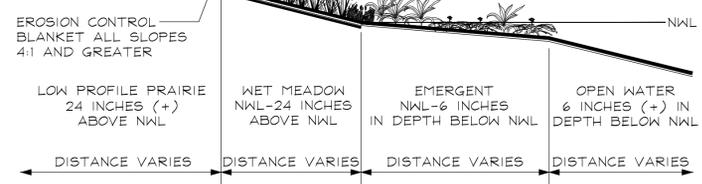
PLANT LIST

| Key | Qty | Botanical/Common Name | Size | Remarks |
|------------------------|-------|--|-------------|---------|
| SHADE TREES | | | | |
| AF | 2 | Acer freemanii "Jeffers Red" AUTUMN BLAZE MAPLE | 2 1/2" Cal. | |
| CO | 3 | Celtis occidentalis COMMON HACKBERRY | 2 1/2" Cal. | |
| QB | 1 | Quercus bicolor SWAMP WHITE OAK | 2 1/2" Cal. | |
| EVERGREEN TREES | | | | |
| PG | 5 | Picea glauca var. densata BLACK HILLS SPRUCE | 8' Ht. | |
| PO | 5 | Picea omorika SERBIAN SPRUCE | 8' Ht. | |
| MISC. MATERIALS | | | | |
| | 6 | SHREDDED HARDWOOD MULCH | C.Y. | |
| | 2,660 | SOD | S.Y. | |
| | 0.6 | TURF SEED & BLANKET | AC | |

NATIVE SEED LEGEND

| Key | Qty. | Description |
|-----------|----------|------------------------------|
| [Pattern] | 0.17 AC. | LOW PROFILE PRAIRIE SEED MIX |
| [Pattern] | 0.33 AC. | EMERGENT PLANT MIX |
| [Pattern] | 0.11 AC. | WET MEADOW SEED MIX |
| [Symbol] | 5 | NATURALIZED AREA SIGN |

PLANT COMMUNITY SECTION
 NOT TO SCALE



77th STREET PROJECT
 NAPERVILLE, ILLINOIS
LANDSCAPE PLAN

REVISIONS

| | |
|---|-----------|
| 3 | 4.16.2020 |
| 2 | 3.11.2020 |
| 1 | 2.07.2020 |

DATE: 12.18.2019
 PROJECT NO.: JE1926
 DRAWN: GFB
 CHECKED: MGM
 SHEET NO.

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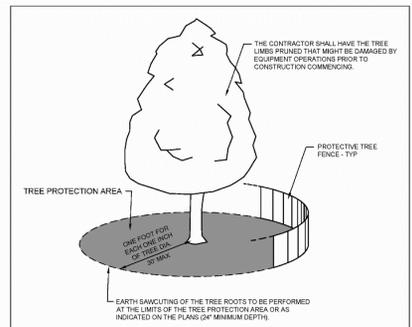
ENGINEER
CEMCON, LTD.
 2280 WHITE OAK CIR., SUITE 100
 AURORA, ILLINOIS 60502
 P: 630-862-2100



APPROVED

TREE INVENTORY

| Number | Common Name | Botanic Name | Size | Condition | Proposed Action | Number | Common Name | Botanic Name | Size | Condition | Proposed Action | Number | Common Name | Botanic Name | Size | Condition | Proposed Action | Number | Common Name | Botanic Name | Size | Condition | Proposed Action | |
|--------|--------------------|------------------------------|--------|-----------|-----------------|--------|--------------------|-------------------|--------|-----------|-----------------|--------|--------------------|-------------------|--------|-----------|-----------------|--------|--------------------|--------------------|-------------------|-----------|-----------------|--------|
| 1858 | Box Elder | Acer negundo | 15 | 4 | Remove | 1909 | Silver Maple | Acer saccharinum | 16 | 3 | Remove | 1945 | Silver Maple | Acer saccharinum | 15 | 4 | Remove | 1981 | Red Elm | Ulmus rubra | 15 | 4 | Remove | |
| 1859 | Silver Maple | Acer saccharinum | 13 | 4 | Remove | 1910 | Silver Maple | Acer saccharinum | 20 | 4 | Preserve | 1946 | Silver Maple | Acer saccharinum | 14 | 4 | Remove | 1982 | Red Elm | Ulmus rubra | 17 | 4 | Remove | |
| 1860 | Silver Maple | Acer saccharinum | 14 | 4 | Remove | 1911 | Red Elm | Ulmus rubra | 12 | 3 | Remove | 1947 | Box Elder | Acer negundo | 14 | 5 | Remove | 1983 | Box Elder | Acer negundo | 14 | 4 | Remove | |
| 1861 | Silver Maple | Acer saccharinum | 29 | 4 | Remove | 1912 | Silver Maple | Acer saccharinum | 2 X 8 | 3 | Remove | 1948 | Silver Maple | Acer saccharinum | 3 X 12 | 4 | Remove | 1984 | Silver Maple | Acer saccharinum | 13 | 10 | 4 | Remove |
| 1862 | Silver Maple | Acer saccharinum | 17 | 3 | Remove | 1913 | Red Elm | Ulmus rubra | 15 | 3 | Remove | 1949 | Silver Maple | Acer saccharinum | 2 X 12 | 4 | Remove | 1985 | Eastern Cottonwood | Populus deltoides | 15 | 3 | Remove | |
| 1863 | Silver Maple | Acer saccharinum | 20 MS | 4 | Remove | 1914 | Box Elder | Acer negundo | 14 | 4 | Remove | 1950 | Silver Maple | Acer saccharinum | 5 X 12 | 4 | Remove | 1986 | Eastern Cottonwood | Populus deltoides | 24 | 4 | Remove | |
| 1864 | Silver Maple | Acer saccharinum | 21 MS | 4 | Remove | 1915 | Red Elm | Ulmus rubra | 14 | 4 | Remove | 1951 | Eastern Cottonwood | Populus deltoides | 20 | 12 | 4 | Remove | 1987 | Eastern Cottonwood | Populus deltoides | 17 | 3 | Remove |
| 1865 | Silver Maple | Acer saccharinum | 13 | 4 | Remove | 1916 | Chinese Elm | Ulmus parvifolia | 10 | 3 | Remove | 1952 | Silver Maple | Acer saccharinum | 36 MS | 3 | Remove | 1988 | Box Elder | Acer negundo | 15 | 4 | Remove | |
| 1866 | Box Elder | Acer negundo | 18 MS | 5 | Remove | 1917 | Box Elder | Acer negundo | 12 | 4 | Remove | 1953 | Box Elder | Acer negundo | 16 | 10 | 4 | Remove | 1989 | Silver Maple | Acer saccharinum | 60 MS | 4 | Remove |
| 1867 | Silver Maple | Acer saccharinum | 15-12 | 4 | Remove | 1918 | Eastern Cottonwood | Populus deltoides | 21 | 3 | Remove | 1954 | Silver Maple | Acer saccharinum | 18 | 4 | Remove | 1990 | Black Walnut | Juglans nigra | 12 | 3 | Remove | |
| 1868 | Box Elder | Acer negundo | 20 | 4 | Remove | 1919 | Black Cherry | Prunus serotina | 15 | 4 | Remove | 1955 | Silver Maple | Acer saccharinum | 16 | 4 | Remove | 1991 | Box Elder | Acer negundo | 19 | 4 | Remove | |
| 1869 | Box Elder | Acer negundo | 18 | 4 | Remove | 1920 | Red Oak | Quercus rubra | 15 | 2 | Remove | 1956 | Black Walnut | Juglans nigra | 15 | 3 | Remove | 1992 | Silver Maple | Acer saccharinum | 16 | 4 | Remove | |
| 1870 | Silver Maple | Acer saccharinum | 18-12 | 3 | Remove | 1921 | Silver Maple | Acer saccharinum | 12 | 4 | Remove | 1957 | Silver Maple | Acer saccharinum | 2 X 18 | 4 | Remove | 1993 | Eastern Cottonwood | Populus deltoides | 14 | 4 | Remove | |
| 1871 | Silver Maple | Acer saccharinum | 20 | 4 | Remove | 1922 | Silver Maple | Acer saccharinum | 16 | 3 | Remove | 1958 | Silver Maple | Acer saccharinum | 12 | 4 | Remove | 1994 | Silver Maple | Acer saccharinum | 15 | 3 | Remove | |
| 1872 | Common Hackberry | Celtis occidentalis | 9 | 3 | Remove | 1923 | Red Elm | Ulmus rubra | 15 | 4 | Remove | 1959 | Silver Maple | Acer saccharinum | 2 X 14 | 4 | Remove | 1995 | Silver Maple | Acer saccharinum | 15 | 4 | Remove | |
| 1873 | Honey Locust | Gleditsia tricanthos inermis | 38 | 2 | Remove | 1924 | Silver Maple | Acer saccharinum | 13 | 3 | Remove | 1960 | Box Elder | Acer negundo | 18 | 14 | 4 | Remove | 1996 | Silver Maple | Acer saccharinum | 12 | 4 | Remove |
| 1874 | Eastern Cottonwood | Populus deltoides | 14 | 4 | Remove | 1925 | Red Elm | Ulmus rubra | 24 | 3 | Remove | 1961 | Silver Maple | Acer saccharinum | 12 | 4 | Remove | 1997 | Silver Maple | Acer saccharinum | 12 | 4 | Remove | |
| 1875 | Eastern Cottonwood | Populus deltoides | 15 | 3 | Remove | 1926 | Silver Maple | Acer saccharinum | 12 | 4 | Remove | 1962 | Silver Maple | Acer saccharinum | 12 | 4 | Remove | 1998 | Silver Maple | Acer saccharinum | 28 MS | 4 | Remove | |
| 1876 | Red Elm | Ulmus rubra | 16 | 4 | Remove | 1927 | Silver Maple | Acer saccharinum | 14 | 4 | Remove | 1963 | Eastern Cottonwood | Populus deltoides | 12 | 4 | Remove | 1999 | Silver Maple | Acer saccharinum | 14 | 12 | 4 | Remove |
| 1877 | Eastern Cottonwood | Populus deltoides | 15 | 4 | Remove | 1928 | Red Elm | Ulmus rubra | 14 | 3 | Remove | 1964 | Silver Maple | Acer saccharinum | 4 X 10 | 4 | Remove | 2000 | Silver Maple | Acer saccharinum | 20 MS | 4 | Remove | |
| 1878 | Eastern Cottonwood | Populus deltoides | 21 | 3 | Remove | 1929 | Red Oak | Quercus rubra | 2 X 14 | 3 | Remove | 1965 | Silver Maple | Acer saccharinum | 14 | 4 | Remove | | | | | | | |
| 1879 | Red Elm | Ulmus rubra | 12 | 3 | Remove | 1930 | Red Oak | Quercus rubra | 16 | 3 | Remove | 1966 | Box Elder | Acer negundo | 24 | 4 | Remove | | | | | | | |
| 1880 | Eastern Cottonwood | Populus deltoides | 16 | 3 | Remove | 1931 | Red Oak | Quercus rubra | 18 | 2 | Remove | 1967 | Silver Maple | Acer saccharinum | 21 | 4 | Remove | | | | | | | |
| 1881 | Black Walnut | Juglans nigra | 15 | 3 | Remove | 1932 | Red Oak | Quercus rubra | 19 | 2 | Remove | 1968 | Silver Maple | Acer saccharinum | 13 | 18 | 4 | Remove | | | | | | |
| 1882 | Chinese Elm | Ulmus parvifolia | 19 | 4 | Remove | 1933 | Silver Maple | Acer saccharinum | 16 | 3 | Remove | 1969 | Box Elder | Acer negundo | 14 | 4 | Remove | | | | | | | |
| 1883 | Red Elm | Ulmus rubra | 16 | 3 | Remove | 1934 | Box Elder | Acer negundo | 20 | 4 | Remove | 1970 | Silver Maple | Acer saccharinum | 13 | 4 | Remove | | | | | | | |
| 1884 | Silver Maple | Acer saccharinum | 13 | 4 | Remove | 1935 | Red Oak | Quercus rubra | 11 | 4 | Preserve | 1971 | Silver Maple | Acer saccharinum | 12 | 4 | Remove | | | | | | | |
| 1885 | Silver Maple | Acer saccharinum | 14 | 4 | Remove | 1936 | Red Oak | Quercus rubra | 10 | 4 | Preserve | 1972 | Silver Maple | Acer saccharinum | 12 | 4 | Remove | | | | | | | |
| 1901 | Black Walnut | Juglans nigra | 12 | 3 | Remove | 1937 | Silver Maple | Acer saccharinum | 12 | 4 | Remove | 1973 | Silver Maple | Acer saccharinum | 38 MS | 4 | Remove | | | | | | | |
| 1902 | Box Elder | Acer negundo | 16 | 4 | Remove | 1938 | Silver Maple | Acer saccharinum | 13 | 4 | Remove | 1974 | Red Elm | Ulmus rubra | 13 | 3 | Remove | | | | | | | |
| 1903 | Box Elder | Acer negundo | 20 | 4 | Remove | 1939 | Silver Maple | Acer saccharinum | 20 | 4 | Remove | 1975 | Box Elder | Acer negundo | 13 | 10 | 4 | Remove | | | | | | |
| 1904 | Silver Maple | Acer saccharinum | 3 X 16 | 3 | Remove | 1940 | Box Elder | Acer negundo | 14 | 3 | Remove | 1976 | Box Elder | Acer negundo | 13 | 4 | Remove | | | | | | | |
| 1905 | Box Elder | Acer negundo | 18 | 4 | Remove | 1941 | Silver Maple | Acer saccharinum | 12 | 4 | Remove | 1977 | Box Elder | Acer negundo | 17 | 4 | Remove | | | | | | | |
| 1906 | Box Elder | Acer negundo | 20 | 5 | Remove | 1942 | Silver Maple | Acer saccharinum | 2 X 10 | 3 | Remove | 1978 | Silver Maple | Acer saccharinum | 26 | 4 | Remove | | | | | | | |
| 1907 | Red Elm | Ulmus rubra | 13 | 3 | Remove | 1943 | Red Oak | Quercus rubra | 15 | 4 | Remove | 1979 | Eastern Cottonwood | Populus deltoides | 17 | 4 | Remove | | | | | | | |
| 1908 | Silver Maple | Acer saccharinum | 12 | 3 | Remove | 1944 | Box Elder | Acer negundo | 12 | 5 | Remove | 1980 | Silver Maple | Acer saccharinum | 28 | 4 | Remove | | | | | | | |



- NOTE:**
- TREE CONDITION KEY:
 1 = EXCELLENT
 2 = GOOD/FAIR
 3 = FAIR
 4 = FAIR/POOR
 5 = POOR
 - TREE SURVEY AND INVENTORY CONDUCTED BY CEMCON, LTD.

- NOTES:**
- A TREE PROTECTION AREA SHALL BE ESTABLISHED AROUND A TREE A DISTANCE OF ONE FOOT FOR EACH ONE INCH OF TREE DIAMETER, UP TO A MAXIMUM OF 30 FEET.
 - PROTECTIVE TREE FENCE SHALL BE INSTALLED AT THE LIMITS OF THE TREE PROTECTION AREA. THE FENCE SHALL BE HIGH ENOUGH SO AS TO BE VISIBLE TO ALL CONSTRUCTION PERSONNEL.
 - GRADE CHANGES, UTILITY TRENCHES, STORAGE OF CONSTRUCTION MATERIAL, DUMPING OF WASTE, OR OPERATION OR STORAGE OF ANY EQUIPMENT SHALL NOT BE ALLOWED WITHIN THE TREE PROTECTION AREA.
 - AUGURING IS REQUIRED IF A UTILITY MUST BE INSTALLED WITHIN THE TREE PROTECTION AREA. AUGURED UTILITIES MUST BE A MINIMUM OF 24 INCHES BELOW GRADE.
 - ALL TREES TO BE SAVED WHICH HAVE BEEN SUBJECTED TO CONSTRUCTION ACTIVITY WITHIN THE TREE PROTECTION AREA SHOULD BE SELECTIVELY THINNED BY AN ARBORIST PRIOR TO THE SELECTIVE THINNING PROCEDURE. NONE OF THE TREES SHALL BE TOPPED, HEADED, BACK-SAWED, REMOVAL OF THE INTERIOR BRANCHES, OR CLIMBED WITH SPICES. ALL DEAD WOOD SHOULD BE REMOVED TO AVOID HAZARD.
 - IT IS RECOMMENDED THAT FOLLOWING CONSTRUCTION, TREES BE MAINTAINED IN THEIR NATIVE CONDITION. NO LAWN SHOULD BE PLACED AROUND THE TREES. IT IS RECOMMENDED THAT THE AREA BE MULCHED WITH 2 INCHES OF DECOMPOSED LEAVES AND 2 INCHES OF WOOD CHIPS OR BARK.

City of Naperville
STANDARD DETAIL
 TREE PROTECTION
 REVISED 06/01/2018 SHEET 1 OF 1
 LANDSCAPE 10
790.10



LEGEND

1234 (circle with dot) TREE TO BE PRESERVED

1234 (starburst) TREE TO BE REMOVED

TREE PRESERVATION NOTES:

- 48" high snow fence or wood barriers shall extend to the dripline of the tree or tree mass whenever possible, shall be installed before construction begins, and should not be removed until the completion of construction.
- All accidental damage to existing trees that are to be preserved shall be promptly treated as required in accordance with recognized horticultural practices and the instructions of the professional Arborist, Landscape Architect or Horticulturist.
- Broken or badly bruised branches shall be removed with a clean cut. If recommended by the professional Arborist, Landscape Architect or Horticulturist.
- Care shall be exercised by the contractors to protect all overhead limbs and branches from damage by contact with material, machinery or equipment and by damage from engine exhaust.
- Contractors shall protect trees and vegetation against spills or discharge of fuels, lubricating oils, hydraulic fluids, anti-freeze and coolants, calcium chloride, lime and all other similar hydrocarbons, organic chemicals, and other materials which can be harmful.

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 P. 630-862-2100

77th STREET PROJECT
 NAPERVILLE, ILLINOIS
TREE INVENTORY / PRESERVATION PLAN

| REVISIONS | DATE |
|-----------|-----------|
| 3 | 4.16.2020 |
| 2 | 3.11.2020 |
| 1 | 2.07.2020 |

| | |
|-------------|------------|
| DATE | 12.18.2019 |
| PROJECT NO. | JE1926 |
| DRAWN | GFB |
| CHECKED | MGM |
| SHEET NO. | |

0 15' 30' 60' 90'
 SCALE: 1"=30'
 NORTH





LANDSCAPE WORK PART 1 - GENERAL

1.1 DESCRIPTION OF WORK

The work shall consist of furnishing, transporting and installing all seeds, plants and other materials required for:

- The establishment of trees, shrubs, perennial, annual and lawn areas as shown on Landscape Plan.
- The provision of post-planting management as specified herein;
- Any remedial operations necessary in conformance with the plans as specified in this document, and
- Permits which may be required.

1.2 QUALITY ASSURANCE

A. Work shall conform to State of Illinois Horticultural Standards and local municipal requirements.

B. Quality Control Procedures:

- Ship landscape materials with certificates of inspection as required by governmental authorities. Comply with governing regulations applicable to landscape materials.
- Do not make substitutions. If specified landscape material is not obtainable, submit to Landscape Architect proof of non-availability and proposal for use of equivalent material.
- Analysis and Standards: Package standard products with manufacturers certified analysis.

1.3 SUBMITTALS

A. Planting Schedule

Submit three (3) copies of the proposed planting schedule showing dates for each type of planting

B. Maintenance Instruction - Landscape Work

Submit two (2) copies of typewritten instructions recommending procedures to be established by the Owner for the maintenance of landscape work for one full year. Submit prior to expiration of required maintenance periods.

Instructions shall include: watering, fertilizing, spraying, mulching and pruning for plant material and trimming groundcover. Instructions for watering, fertilizing and mowing grass areas shall be provided ten (10) days prior to request for inspection for final acceptance. Landscape Architect shall receive copies of all instructions when issued.

C. Submit two (2) copies of soil test of existing topsoil with recommendations for soil additive requirement to Landscape Architect for review and written approval.

D. Submit two (2) samples of shredded hardwood bark mulch, erosion control blankets, and all other products and materials as specified on plans to Landscape Architect for review and written approval.

E. Nursery packing lists indicating the species and quantities of material installed must be provided to the Owner and/or City upon request.

1.4 JOB CONDITIONS

A. Examine and evaluate grades, soils and water levels. Observe the conditions under which work is to be performed and notify Landscape Architect of unsatisfactory conditions. Do not proceed with the work until unsatisfactory conditions have been corrected in an acceptable manner.

B. Utilities: Review underground utility location maps and plans; notify local utility location services; demonstrate an awareness of utility locations; and certify acceptance of liability for the protection of utilities during course of work. Contractor shall be responsible for any damage to utilities or property.

C. Excavation: When conditions detrimental to plant growth are encountered such as rubble fill, adverse drainage conditions or obstructions, notify Landscape Architect before planting.

1.5 GUARANTEES

A. Guarantee seeded and sodded areas through the specified maintenance period and until final acceptance.

B. Guarantee trees, shrubs, groundcover and perennials for a period of one year after date of acceptance against defects including death and unsatisfactory growth, except for defects resulting from neglect by Owner, abuse or damage by others or unusual phenomena or incidents which are beyond Landscape Installer's control.

C. Native Planting Area Performance Criteria

1st Full Growing Season: 90% of cover crop shall be established. There shall be no bare areas greater than two (2) square feet in seeded areas. At least 25% of vegetation coverage shall be native, non-invasive species. At least 50% of the emergent species, if planted as plugs shall be alive and apparent.

2nd Full Growing Season: All areas with the exception of emergent zones shall exhibit full vegetative cover. At least 50% of the vegetation coverage shall be native, non-invasive species.

3rd Full Growing Season: At least 75% of vegetation coverage shall be native, non-invasive species. Non-native species shall constitute no more than 25% relative aerial coverage of the planted area. Invasive species for this project shall include the following: *Ambrosia artemisiifolia* & *trifida* (Common & Giant Ragweed), *Cirsium arvense* (Canada Thistle), *Dipsacus laciniatus* (Cut-leaved Thistle), *Dipsacus sylvestris* (Common Tassel), *Lythrum salicaria* (Purple Loosestrife), *Melilotus sp.* (Sweet Clover), *Phalaris arundinacea* (Reed Canary Grass), *Phragmites australis* (Giant Reed), *Fallopia japonica* (Japanese Knotweed), *Rhamnus cathartica* & *frangula* (Common & Glossy Buckthorn), *Typha sp.* (Broadleaf, Narrowleaf, and Hybrid Cattail). Edit as necessary based on project specifics.

LANDSCAPE WORK PART 2 - PLANT MATERIAL

2.1 LAWN SOD

Lawn sods strongly rooted sod, not less than two (2) years old and free of weeds and undesirable native grasses. Provide only sod capable of growth and development when planted (viable, not dormant) and in strips not more than 18" wide x 4' long. Provide sod composed of a 5-way blend of Kentucky Bluegrass such as: Midnight, Allure, Viva, Washington, Liberty.

2.2 LAWN SEED MIXTURE

Grass Seed: Provide fresh, clean, new crop seed complying with the tolerance for purity and germination established by the Official Seed Analysts of North America. Provide seed of the grass species, proportions and maximum percentage of weed seed, as specified.

- A. Lawn Seed Mixture - 5 lbs. / 1,000 sq. ft.
- 50% Kentucky Bluegrass 98/05
 - 15% Cutter Perennial Ryegrass
 - 10% Spartan Hard Fescue
 - 10% Edge Perennial Ryegrass
 - 10% Express Perennial Ryegrass
 - 5% Pennium Creeping Red Fescue

- B. Temporary Lawn Seed Mixture - 5 lbs. / 1,000 sq. ft.
- 40% Kentucky Bluegrass 98/05
 - 40% Perennial Ryegrass
 - 20% Annual Ryegrass

2.3 NATIVE PLANTING MIXTURES

Provide fresh, clean, new crop of the species and proportions as specified. Native seed and live plant material shall be obtained from a reputable supplier (approved by Landscape Architect) that has collected from sources east of the Mississippi River within the same EPA Level III Ecoregion as the project site (Central Corn Belt Plains). Any material sourced from outside this ecoregion must be approved by the Landscape Architect prior to installation.

For each species, the amount of seed indicated on the specifications shall mean the total amount of pure live seed (PLS) per acre. Seed tags and PLS testing information shall be provided to the Landscape Architect prior to seeding.

It is the sole responsibility of the Native Landscape Contractor to provide approved seed that meets industry-standard PLS requirements.

A. Temporary Cover Crop:

Cover crops shall be installed in all planting areas containing dry mesic, mesic, and wet mesic soils to stabilize soils, and combat weed pressure during the germination and establishment of the native seeding area.

For spring plantings use Seed Oats at the specified rates below:

| Botanical Name | Common Name | lbs. /AC. |
|---------------------|-------------|-----------|
| <i>Avena sativa</i> | Seed Oats | 40.0 lbs. |

For fall or dormant plantings, use Regreen® at the specified rates below:

| Botanical Name | Common Name | lbs. /AC. |
|--------------------------|-------------|-----------|
| <i>Triticum aestivum</i> | Regreen® | 50.0 lbs. |

B. Emergent Plantings - Shoreline edge and Planting shelf 4" deep - 12" deep

| Botanical Name | Common Name | lbs. /AC. | Plugs/AC |
|------------------------------|------------------|--------------|--------------|
| <i>Acorus calamus</i> | Sweet Flag | 0.500 | 988 |
| <i>Allium subcordatum</i> | Water Plantain | 1.250 | |
| <i>Eleocharis obtusata</i> | Blunt Spike Rush | 0.375 | |
| <i>Eleocharis palustris</i> | Marsh Spike Rush | 0.375 | |
| <i>Glyceria grandis</i> | Reed Hanna Grass | 0.375 | |
| <i>Rose Helianthus</i> | Rose Helianthus | 0.250 | |
| <i>Iris virginica</i> | Blue Flag | 0.500 | 988 |
| <i>Juncus effusus</i> | Common Rush | 0.500 | |
| <i>Leersia Oryzoides</i> | Rice Cut Grass | 1.250 | 988 |
| <i>Pickeringia Cardata</i> | Pickeringia | 0.250 | 988 |
| <i>Sagittaria latifolia</i> | Common Arrowhead | 1.250 | 988 |
| <i>Scirpus acutus</i> | Hardstem Bulrush | 0.250 | 988 |
| <i>Scirpus pungens</i> | Charmakers Rush | 0.250 | 988 |
| <i>Scirpus validus</i> | Great Bulrush | 0.250 | 988 |
| <i>Spartanium eurycarpum</i> | Bur Reed | 1.000 | 988 |
| | Total: | 8.625 | 8,982 |

C. Wet Meadow Seed Mixture - Lower slopes of basin

| Botanical Name | Common Name | lbs. /AC. |
|---------------------------|----------------------------------|--------------|
| Grasses and Sedges | | |
| <i>Agrostis alba</i> | Red Top | 3.00 |
| <i>Carex bebbii</i> | Bebb's Oval Sedge | 0.250 |
| <i>Carex bicolor</i> | Bicknell's Sedge | 0.250 |
| <i>Carex brevior</i> | Plains Oval Sedge | 0.250 |
| <i>Carex cristatella</i> | Crested Oval Sedge | 0.150 |
| <i>Carex molesata</i> | Field Oval Sedge | 0.250 |
| <i>Carex normalis</i> | Spreading Oval Sedge | 0.250 |
| <i>Carex scarpioria</i> | Pointed Broom Sedge | 0.190 |
| <i>Carex stipitata</i> | Common Fox Sedge | 0.250 |
| <i>Carex vulpinoidea</i> | Braun Fox Sedge | 0.250 |
| <i>Elymus virginicus</i> | Virginia Wild Rye | 3.000 |
| <i>Glyceria striata</i> | Pauli's Marina Rye | 0.500 |
| <i>Juncus diemichiei</i> | Dark Green Sedge | 0.003 |
| <i>Juncus torreyi</i> | Torrey's Rush | 0.005 |
| <i>Panicum virgatum</i> | Switch Grass | 3.000 |
| <i>Scirpus atrovirens</i> | Dark Green Rush | 0.060 |
| <i>Scirpus cyperinus</i> | Knoll Grass | 0.015 |
| | Total Grasses and Sedges: | 11.67 |

D. Low Profile Prairie With Flowers Seed Mixture - Upper Basin Slopes

| Botanical Name | Common Name | lbs. /AC. |
|---------------------------------|---|---------------|
| Grasses | | |
| <i>Bouteloua curtipendula</i> | Side Oats Grama | 8.000 |
| <i>Panicum virgatum</i> | Prairie Switch Grass | 0.125 |
| <i>Elymus trachycalus</i> | Slender Wheatgrass | 2.000 |
| <i>Elymus canadensis</i> | Prairie Wild Rye | 1.000 |
| <i>Schizachyrium scoparium</i> | Little Blue Stem | 6.000 |
| | Total Grasses: | 17.125 |
| Wildflowers/Broadleaves | | |
| <i>Allium cernuum</i> | Nodding Wild Onion | 0.190 |
| <i>Amorpha canescens</i> | Lead Plant | 0.125 |
| <i>Asclepias tuberosa</i> | Butterflyweed | 0.500 |
| <i>Asclepias canadensis</i> | Whorled Milkweed | 0.063 |
| <i>Astragalus canadensis</i> | Canada Milk Vetch | 0.063 |
| <i>Ceropegia palmata</i> | Prairie Ceropegia | 0.025 |
| <i>Echinacea pallida</i> | Pale Purple Coneflower | 1.000 |
| <i>Echinacea purpurea</i> | Purple Coneflower | 0.500 |
| <i>Eryngium yuccifolium</i> | Rattlesnake Master | 0.125 |
| <i>Lespedeza capitata</i> | Round-Headed Bush Clover | 0.125 |
| <i>Liatris aspera</i> | Prairie Blazing Star | 0.250 |
| <i>Liatris pycnostachya</i> | Prairie Blazing Star | 0.188 |
| <i>Monarda fistulosa</i> | Prairie Bergamot | 0.063 |
| <i>Parthenium integrifolium</i> | Wild Quinine | 0.016 |
| <i>Penstemon digitalis</i> | Foxglove Beardtongue | 0.125 |
| <i>Petalostemum candidum</i> | White Prairie Clover | 0.125 |
| <i>Petalostemum purpureum</i> | Purple Prairie Clover | 0.156 |
| <i>Potentilla arguta</i> | Prairie Cinquefoil | 0.031 |
| <i>Pycnanthemum tenuifolium</i> | Slender Mt. Mint | 0.031 |
| <i>Rudbeckia hirta</i> | Black-Eyed Susan | 0.500 |
| <i>Rudbeckia subtomentosa</i> | Sweet Black-Eyed Susan | 0.063 |
| <i>Solidago canadensis</i> | Shiny Black-Eyed Susan | 0.500 |
| <i>Rudbeckia hirta</i> | Rudbeckia | 0.063 |
| <i>Spiderwort</i> | Spiderwort | 0.063 |
| <i>Verbena stricta</i> | Hoary Vervain | 0.125 |
| <i>Zizia aurea</i> | Golden Alexanders | 0.500 |
| | Total Wildflowers/Broadleaves: | 4.051 |
| | Total Lo Pro Prairie Seed Mixture: | 21.176 |

2.4 GROUNDCOVERS, PERENNIALS AND ANNUALS

Provide plants established and well-rooted in removable containers or integral peat pots and with not less than the minimum number and length of runners required by ANSI Z60.1 for the pot size shown or listed.

2.5 TREES AND SHRUBS

- A. Name and Variety: Provide nursery grown plant material true to name and variety.
- B. Quality: Provide trees, shrubs and other plants complying with the recommendations and requirements of ANSI Z60.1 "Standard for Nursery Stock" and as further specified.
- C. Deciduous Trees: Provide trees of height and caliper listed or shown and with branching configuration recommended by ANSI Z60.1 for type and species required. Provide single stem trees except where special forms are shown or listed. Provide balled and burlapped (B&B) deciduous trees.
- D. Deciduous Shrubs: Provide shrubs of the height shown or listed and with not less than the minimum number of canes required by ANSI Z60.1 for the type and height of shrub required. Provide balled and burlapped (B&B) deciduous shrubs.
- E. Coniferous Evergreen: Provide evergreens of the sizes shown or listed. Dimensions indicate minimum spread for spreading and semi-spreading type evergreens and height for other types. Provide quality evergreens with well-balanced form complying with requirements for other size relationships to the primary dimension shown. Provide balled and burlapped (B&B) evergreen trees and containerized shrubs.
- F. Inspection: All plants shall be subject to inspection and review at the place of growth or upon delivery and conformity to specification requirements as to quality, right of inspection and rejection upon delivery at the site or during the progress of the work for size and condition of balls or roots, diseases, insects and latent defects or injuries. Rejected plants shall be removed immediately from the site.

2.6 PLANTING SOIL MIXTURE

Provide planting soil mixture consisting of clean uncompacted topsoil (stockpiled at site) for all planting pits, perennial, annual and groundcover areas. Topsoil shall be conditioned based on any recommendations resulting from the soil test in 1.3.C.

2.7 AMENDED SOIL MIXTURE

Provide amended soil mixture consisting of 20% sand, 30% compost & 50% topsoil. Compost shall consist of 35% - 65% organic material and less than 1% manufacturer inert material. Amended soil mixture shall pass through a 1/2" screen. Mix materials thoroughly.

2.8 EROSION CONTROL

- A. Erosion Control Blanket (Perimeter Grass Mix): Futerra EnviroNet color: Green, or approved equal. To be installed per manufacturer's recommendations.
- B. Shoreline Erosion Control Blanket: North American Green SC150, or approved equal. To be installed per manufacturer's recommendations.

2.9 MULCH

Provide mulch consisting of shredded hardwood. Provide sample to Landscape Architect for approval prior to ordering materials.

LANDSCAPE WORK PART 3 - EXECUTION

3.1 PLANTING SCHEDULE

At least thirty (30) days prior to the beginning of work in each area, submit a planting schedule for approval by the Landscape Architect.

3.2 PLANTINGS

A. Sodding New Lawns

- Remove existing grass, vegetation and turf. Dispose of such material legally off-site, do not turn over into soil being prepared for lawns.
- Till to a depth of not less than 6"; apply soil amendments as needed; remove high areas and fill in depressions; till soil to a homogeneous mixture of fine texture, remove lumps, clods, stones over 1" diameter, roots and other extraneous matter. Dispose of such material legally off-site.
- Sodded areas shall receive an application of commercial fertilizer at the rate of 10 lbs. per 1,000 sq. ft. and shall have an analysis of 16-8-8.
- Lay sod within 24 hours from time of stripping.
- Lay sod to form a solid mass with tightly fitted joints. Butt ends and sides of sod strips; do not overlap. Stagger strips to offset joints in adjacent courses. Work from boards to avoid damage to subgrade or sod. Tamp or roll lightly to ensure contact with subgrade. Work sifted soil into minor cracks between pieces of sod; remove excess to avoid smothering of adjacent grass.
- Water sod thoroughly with a fine spray immediately after planting.

B. Seeding New Lawns

- Remove existing grass, vegetation and turf. Dispose of such material legally off-site. Do not turn over into soil being prepared for lawns.
- Till to a depth of not less than 6"; apply soil amendments; remove high areas and fill in depressions; till soil to a homogeneous mixture of fine texture, remove lumps, clods, stones over 1" diameter, roots and other extraneous matter. Dispose of such material legally off-site.
- Seeded lawn areas shall receive an application of commercial fertilizer at the rate of 5 lbs. per 1,000 sq. ft. and shall be 6-24-24. Fertilizer shall be uniformly spread and mixed into the soil to a depth of 1" inches.
- Do not use wet seed or seed which is moldy or otherwise damaged in transit or storage.
- Sow seed using a spreader or seeding machine. Do not seed when wind velocity exceeds five (5) miles per hour. Distribute seed evenly over entire area by sowing equal quantity in two directions at right angles to each other.
- Sow not less than specified rate.
- Rake lawn seed lightly into top 1" of soil, roll lightly and water with a fine spray.

C. Seeding Native Areas

- The period for planting prairie seed shall be from April 1 to May 15 or November 1 to just before the first frost. Seeding outside of these timeframes must be approved by the landscape architect. Native seed planted outside of specified timeframes must have at least 60 days of growth prior to frost. Dormant seeding in winter is possible if soil conditions allow.
- The General Contractor and Native Landscape Contractor shall be responsible for performing all work necessary to achieve and maintain an acceptable seeded prior to seeding. All areas must be properly prepared before seeding begins. Equipment having low unit pressure ground contact shall be utilized within the planting areas.
- If present, compacted soils shall be disked or raked prior to seeding. Remedial measures for the access area may, at the direction of the Wetland Consultant, involve rippling from 12 to 18 inches of the soil horizon prior to diskings.
- Prior to seeding, planting areas shall have at least twelve inches of clean un-compacted topsoil. Clumps, clods, stones over 2" diameter, roots and other extraneous matter shall be removed and disposed of legally off-site.
- Granular mycorrhizal inoculants shall be installed with the seed mix at a rate of 40lbs/ acre. Inoculant can be banded under seed, worked into seed or added into spray tanks. Native areas shall not receive fertilizer.
- Contractor shall be solely responsible for the proper handling and storage of the seed according to the best seed handling and storage practices, including fungicide treatments and stratification considerations. Owner shall make no compensation for damage to the seed because of improper storage, cleaning, threshing, or screening operations.
- Except where site conditions preclude their use, seeding shall be performed using a Truax drill, Truax Trillion seeder, or comparable equipment designed specifically for installation of native seed. For areas where site conditions preclude the use of specialized equipment, seed may be installed through hand broadcasting and followed by light raking. Hand broadcast seed shall be spread at twice the specified rate. Other methods of seed installation may be used with prior approval from the Landscape Architect.
- Prior to starting work, all seeding equipment shall be calibrated and adjusted to sow seeds at the proper seeding rate. In general, the optimum seeding depth is 0.25 inch below the soil surface. Areas where the seed has not been incorporated into the soil to the proper depths will not be accepted, and no compensation for materials or labor for the rejected work will be made by the Owner.
- Seeding and soil tracking/firming shall not be done during periods of rain, severe drought, high winds, excessive moisture, frozen ground, or other conditions that preclude satisfactory results.
- Wet mesic and emergent areas shall be planted, and seed allowed to germinate (if possible), prior to flooding with significant amounts of water. Any areas of significant permanent water located within the planting area will receive live plugs in lieu of seed.
- After the seeding operation is completed, install erosion control blanket per manufacturer's specifications.
- Emergent plugs shall not be planted less than the specified rate and shall be protected with goose enclosures surrounding all natural groupings of plugs.

E. Groundcover and Perennial Beds

Groundcover, perennials, and annuals shall be planted in continuous beds of planting soil mixture a minimum of 8" deep. Install per spacing indicated on plan.

F. Trees and Shrubs

- Set balled and burlapped (B&B) stock plants and in center of pit or trench with top of ball at an elevation that will keep the root flare exposed upon backfill and mulching. Remove burlap from top and sides of balls; retain on bottoms. When set, place additional topsoil backfill around base and sides of ball and work each layer to settle backfill and eliminate voids and air pockets. When excavation is 2/3 full, water thoroughly before placing remainder of backfill. Repeat watering until no more is absorbed. Water again after placing final layer of backfill.
- Dish top of backfill to allow for mulching. Provide additional backfill berm around edge of excavations to form shallow saucer to collect water.
- Mulch pits, trenches and planted areas. Provide not less than 2" thickness of mulch and work into top of backfill and finish level with adjacent finish grades. Maintain exposed root flare at all times.
- Prune only injured or dead branches from flowering trees, if any. Protect central leader of tree during shipping and pruning operations. Prune shrubs to retain natural character in accordance with standard horticultural practices.
- Remove and replace excessively pruned or ill-formed stock resulting from improper pruning.
- The Contractor shall be wholly responsible for ensuring that all trees are planted in a vertical and plumb position and remain so throughout the life of this contract and guarantee period. Trees may or may not be staked and guyed depending upon the individual preference of the Contractor; however, any bracing procedure(s) must be approved by the Owner prior to its installation.

3.3 INITIAL MAINTENANCE

- Begin maintenance immediately after planting, continuing until final acceptance. A minimum of thirty (30) days.
- Maintain planted and seeded areas by watering, rolling/regroing, replanting and implementing erosion control as required to establish vegetation free of eroded or bare areas.
- Highlands Fescue and Native Planting areas are to be mowed only once per spring during the initial three year establishment period.
- Once trees, shrubs, mulch beds, seed have been installed, initial maintenance will commence. Initial maintenance shall be considered part of the installation process and will consist of the following:
 - Low Maintenance Turf Areas shall receive appropriate granular fertilizer based on time of year and manufacturer's recommendations.
 - Fertilizer stakes shall be installed at the base of trees and shrubs per manufacturer's recommendations.
 - Temporary zoned irrigation shall be installed during the first three months of establishment.
 - Weeds shall be hand pulled from turf areas during the first three months of establishment. After the turf has established weeds can be treated with a broadleaf specific herbicide.
 - Bare or underperforming areas shall be over seeded.

3.4 NATIVE LANDSCAPED AREAS

CONTINUED MONITORING & MAINTENANCE

A. Monitoring

The Owner shall notify the County upon completion of plantings. The Owner's Environmental Specialist shall inspect the plantings and provide the County with a copy of the planting locations, species, and quantities for verification by the County.

The Owner's Environmental Specialist shall inspect the plantings at least twice per year during the three-year term of the Establishment and Maintenance Cash Bond or Letter of Credit, to determine compliance with the minimum annual performance criteria (See 1.5.C. Guarantees). A monitoring report will be provided to the County by January 31st following each inspection.

B. Maintenance:

First Season

With the exception of the emergent area, native seeding areas should be mowed to a height of 6" to control annual nonnative and invasive species early in the growing season. Mowing, including weed whipping, should be conducted during prior to weed seed production. Mowing height and timing may need to be adjusted per target species. Small quantities of undesirable plant species, shall be controlled by hand pulling prior to the development and maturity of the plant. Hand removal shall include the removal of all above-ground and below-ground stems, roots and flower masses prior to development of seeds. Herbicide should be applied as necessary by a trained and licensed operator that is competent in the identification of native and nonnative herbaceous plants. Debris and litter shall be removed from the native areas and storm structures shall be inspected and maintained as necessary.

Second Season

Control of undesirable plant species during the second growing season shall consist primarily of precise herbicide application. Mowing and weed whipping shall be conducted as needed during the early growing season and as needed to a height of 6 to 8 inches to prevent annual weeds from producing seed. Debris and litter shall be removed from the native areas and storm structures shall be inspected and maintained as necessary.

Third Season:

Seasonal mowing and herbicide will continue as above but should be reduced over time. Debris and litter shall be removed from the native areas and storm structures shall be inspected and maintained as necessary. At the completion of the third growing season (dependent on fuel availability; dominance of graminoid species; and favorable weather conditions), fire may be introduced to the planted areas as a management tool.

State and local permits shall be required prior to controlled burning. Burning shall be conducted by trained professionals experienced in managing smoke in urban environments. Prior to a controlled burn, surrounding property owners as well as local fire and police departments shall be notified. A burn plan detailing preparation and safety, location of fire breaks, and necessary personnel and equipment shall be prepared and utilized in planning and burn implementation.

The initial burn shall be dependent on fuel availability which is directly related to the quantity and quality of grasses collected within the plant matrix. Timing of the burn shall be determined based on results of the annual monitoring indicating species composition of the management area and other analysis of management goals. Generally, burns shall be scheduled from spring to fall on a rotational basis. Burn frequency shall also be dependent on the species composition within the management area. Generally, a new prairie restoration area shall be burned annually for two years after the second or third growing season after planting and then every 2-3 years thereafter, burning 50-75% of the area.

C. Long Term Wetland and Prairie Management/Maintenance

A final compliance report and Long-Term Operation and Maintenance Plan shall be submitted by the Developer/Owner's Environmental Specialist no less than 60 days prior to the expiration of any landscape Cash Bond or Letter of Credit posted for the native areas. Final acceptance and release shall be determined by the County/City/USACE upon inspection of the site to verify compliance.

The Long-Term Operation and Maintenance Plan shall be written to include guidelines and schedules for burning, mowing, application of herbicide, debris/litter removal and inspection schedule for storm structures and sediment removal.